

## SEQUENCE LISTING

<110> Brett P. Monia  
Lex M. Cowser

<120> ANTISENSE MODULATION OF P70 S6 KINASE EXPRESSION

<130> RTS-0245

<160> 49

<210> 1

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 1

tccgtcatcg ctcctcaggg

20

<210> 2

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 2

atgcattctg cccccaagga

20

&lt;210&gt; 3

&lt;211&gt; 2346

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (28)...(1605)

&lt;400&gt; 3

gcacgaggct gcggcgggtc cgggccc atg agg cga cga agg agg cgg gac ggc 54

Met Arg Arg Arg Arg Arg Arg Asp Gly

1

5

ttt tac cca gcc ccg gac ttc cga gac agg gaa gct gag gac atg gca 102

Phe Tyr Pro Ala Pro Asp Phe Arg Asp Arg Glu Ala Glu Asp Met Ala

10

15

20

25

gga gtg ttt gac ata gac ctg gac cag cca gag gac gcg ggc tct gag 150

Gly Val Phe Asp Ile Asp Leu Asp Gln Pro Glu Asp Ala Gly Ser Glu

30

35

40

gat gag ctg gag gag ggg ggt cag tta aat gaa agc atg gac cat ggg 198

Asp Glu Leu Glu Glu Gly Gly Gln Leu Asn Glu Ser Met Asp His Gly

45

50

55

gga gtt gga cca tat gaa ctt ggc atg gaa cat tgt gag aaa ttt gaa 246

Gly Val Gly Pro Tyr Glu Leu Gly Met Glu His Cys Glu Lys Phe Glu

60

65

70

atc tca gaa act agt gtg aac aga ggg cca gaa aaa atc aga cca gaa 294

Ile Ser Glu Thr Ser Val Asn Arg Gly Pro Glu Lys Ile Arg Pro Glu

75

80

85

tgt ttt gag cta ctt cgg gta ctt ggt aaa ggg ggc tat gga aag gtt	342
Cys Phe Glu Leu Leu Arg Val Leu Gly Lys Gly Gly Tyr Gly Lys Val	
90 95 100 105	
ttt caa gta cga aaa gta aca gga gca aat act ggg aaa ata ttt gcc	390
Phe Gln Val Arg Lys Val Thr Gly Ala Asn Thr Gly Lys Ile Phe Ala	
110 115 120	
atg aag gtg ctt aaa aag gca atg ata gta aga aat gct aaa gat aca	438
Met Lys Val Leu Lys Lys Ala Met Ile Val Arg Asn Ala Lys Asp Thr	
125 130 135	
gct cat aca aaa gca gaa cgg aat att ctg gag gaa gta aag cat ccc	486
Ala His Thr Lys Ala Glu Arg Asn Ile Leu Glu Glu Val Lys His Pro	
140 145 150	
ttc atc gtg gat tta att tat gcc ttt cag act ggt gga aaa ctc tac	534
Phe Ile Val Asp Leu Ile Tyr Ala Phe Gln Thr Gly Gly Lys Leu Tyr	
155 160 165	
ctc atc ctt gag tat ctc agt gga gga gaa cta ttt atg cag tta gaa	582
Leu Ile Leu Glu Tyr Leu Ser Gly Gly Glu Leu Phe Met Gln Leu Glu	
170 175 180 185	
aga gag gga ata ttt atg gaa gac act gcc tgc ttt tac ttg gca gaa	630
Arg Glu Gly Ile Phe Met Glu Asp Thr Ala Cys Phe Tyr Leu Ala Glu	
190 195 200	
atc tcc atg gct ttg ggg cat tta cat caa aag ggg atc atc tac aga	678
Ile Ser Met Ala Leu Gly His Leu His Gln Lys Gly Ile Ile Tyr Arg	
205 210 215	
gac ctg aag ccg gag aat atc atg ctt aat cac caa ggt cat gtg aaa	726
Asp Leu Lys Pro Glu Asn Ile Met Leu Asn His Gln Gly His Val Lys	
220 225 230	
cta aca gac ttt gga cta tgc aaa gaa tct att cat gat gga aca gtc	774
Leu Thr Asp Phe Gly Leu Cys Lys Glu Ser Ile His Asp Gly Thr Val	
235 240 245	

aca cac aca ttt tgt gga aca ata gaa tac atg gcc cct gaa atc ttg 822  
 Thr His Thr Phe Cys Gly Thr Ile Glu Tyr Met Ala Pro Glu Ile Leu  
 250 255 260 265

atg aga agt ggc cac aat cgt gct gtg gat tgg tgg agt ttg gga gca 870  
 Met Arg Ser Gly His Asn Arg Ala Val Asp Trp Trp Ser Leu Gly Ala  
 270 275 280

tta atg tat gac atg ctg act gga gca ccc cca ttc act ggg gag aat 918  
 Leu Met Tyr Asp Met Leu Thr Gly Ala Pro Pro Phe Thr Gly Glu Asn  
 285 290 295

aga aag aaa aca att gac aaa atc ctc aaa tgt aaa ctc aat ttg cct 966  
 Arg Lys Lys Thr Ile Asp Lys Ile Leu Lys Cys Lys Leu Asn Leu Pro  
 300 305 310

ccc tac ctc aca caa gaa gcc aga gat ctg ctt aaa aag ctg ctg aaa 1014  
 Pro Tyr Leu Thr Gln Glu Ala Arg Asp Leu Leu Lys Lys Leu Leu Lys  
 315 320 325

aga aat gct gct tct cgt ctg gga gct ggt cct ggg gac gct gga gaa 1062  
 Arg Asn Ala Ala Ser Arg Leu Gly Ala Gly Pro Gly Asp Ala Gly Glu  
 330 335 340 345

gtt caa gct cat cca ttc ttt aga cac att aac tgg gaa gaa ctt ctg 1110  
 Val Gln Ala His Pro Phe Phe Arg His Ile Asn Trp Glu Glu Leu Leu  
 350 355 360

gct cga aag gtg gag ccc ccc ttt aaa cct ctg ttg caa tct gaa gag 1158  
 Ala Arg Lys Val Glu Pro Pro Phe Lys Pro Leu Leu Gln Ser Glu Glu  
 365 370 375

gat gta agt cag ttt gat tcc aag ttt aca cgt cag aca cct gtc gac 1206  
 Asp Val Ser Gln Phe Asp Ser Lys Phe Thr Arg Gln Thr Pro Val Asp  
 380 385 390

agc cca gat gac tca act ctc agt gaa agt gcc aat cag gtc ttt ctg 1254  
 Ser Pro Asp Asp Ser Thr Leu Ser Glu Ser Ala Asn Gln Val Phe Leu

395	400	405	
ggg ttt aca tat gtg gct cca tct gta ctt gaa agt gtg aaa gaa aag			1302
Gly Phe Thr Tyr Val Ala Pro Ser Val Leu Glu Ser Val Lys Glu Lys			
410	415	420	425
ttt tcc ttt gaa cca aaa atc cga tca cct cga aga ttt att ggc agc			1350
Phe Ser Phe Glu Pro Lys Ile Arg Ser Pro Arg Arg Phe Ile Gly Ser			
430	435	440	
cca cga aca cct gtc agc cca gtc aaa ttt tct cct ggg gat ttc tgg			1398
Pro Arg Thr Pro Val Ser Pro Val Lys Phe Ser Pro Gly Asp Phe Trp			
445	450	455	
gga aga ggt gct tcg gcc agc aca gca aat cct cag aca cct gtg gaa			1446
Gly Arg Gly Ala Ser Ala Ser Thr Ala Asn Pro Gln Thr Pro Val Glu			
460	465	470	
tac cca atg gaa aca agt ggc ata gag cag atg gat gtg aca atg agt			1494
Tyr Pro Met Glu Thr Ser Gly Ile Glu Gln Met Asp Val Thr Met Ser			
475	480	485	
ggg gaa gca tcg gca cca ctt cca ata cga cag ccg aac tct ggg cca			1542
Gly Glu Ala Ser Ala Pro Leu Pro Ile Arg Gln Pro Asn Ser Gly Pro			
490	495	500	505
tac aaa aaa caa gct ttt ccc atg atc tcc aaa cgg cca gag cac ctg			1590
Tyr Lys Lys Gln Ala Phe Pro Met Ile Ser Lys Arg Pro Glu His Leu			
510	515	520	
cgt atg aat cta tga cagagcaatg cttttaatga atttaaggca aaaagggtga			1645
Arg Met Asn Leu			
525			
gaggggagatg tgtgagcatc ctgcaaggtg aaacaagact caaaatgaca gtttcagaga			1705
gtcaatgtca ttacatagaa cacttcggac acaggaaaaa taaactgtga ttttaaaaaa			1765
tcaatcaatg gtgcaaaaaa aaacttaaag caaaatagta ttgctgaact cttaggcaca			1825

tcaattaatt gattcctcgc gacatcttcc tcaaccttat caaggatttt catgttgatg 1885  
actcgaaaact gacagtatta agggtaggat gttgctctga atcactgtga gtctgatgtg 1945  
tgaagaaggg tatcctttca ttaggcaagt acaaatggcc tataatactt gcaactaagg 2005  
acaaattagc atgcaagcct ggtcaaaact ttcccaggca aaatgggaag gcaaagacaa 2065  
aagaaactta ccaattgatg ttttacgtgc aaacaacctg aatctttttt ttatataaat 2125  
atatattttt caaatagatt ttgattcag ctcatatga aaaacatccc aaactttaaa 2185  
atgcgaaatt attggttggt gtgaagaaag ccagacaact tctgtttctt ctcttggtga 2245  
aataataaaa tgcaaatgaa tcattgttaa cacagctgtg gctcgtttga gggattgggg 2305  
tgacactggg gtttattttc agtaaccag ctgcggagcc t 2346

<210> 4

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 4

attgctgaac tcttaggcac atca

24

<210> 5

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 5

tgtcagtttc gagtcataa catg

24

<210> 6

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 6

ctcgacat ctttctcaac cttatcaagg at

32

<210> 7

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 7

gaaggtgaag gtcggagtc

19

<210> 8

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 8

gaagatggtg atgggatttc

20

<210> 9

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 9

caagcttccc gttctcagcc

20

<210> 10

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 10

ggacccgccg cagcctcgtg

20

<210> 11

<211> 20

<212> DNA

<213> Artificial Sequence

<220>



<223> Antisense Oligonucleotide

<400> 11

tggggcccga cccgccgcag

20

<210> 12

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 12

catggggccc gacccgccgc

20

<210> 13

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 13

ctcatggggcc cggacccgcc

20

<210> 14

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 14

gcctcatggg ccggaccgc

20

<210> 15

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 15

tcgcctcatg ggcccgacc

20

<210> 16

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 16

cgtcgcctca tgggcccgga

20

<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 17

ttcgtgcgct catgggcccg

20

<210> 18

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 18

ccttcgtcgc ctcatgggcc

20

<210> 19

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 19

ctccttcgtc gcctcatggg

20

<210> 20

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 20

gcctccttcg tcgcctcatg

20

<210> 21

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 21

ccgcctcctt cgtcgctca

20

<210> 22

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 22

gctgggtaaa agccgtccg

20

<210> 23

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 23

ggtccaggtc tatgtcaaac

20

<210> 24

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 24

ccctcctcca gtcctcctc

20

<210> 25

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 25

tttctcaca tgttcacgc

20

<210> 26

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 26

tttctggccc tctgttcaca

20

<210> 27

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 27

caaataatattt cccagtattt

20

<210> 28

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 28

ccgttctgct tttgtatgag

20

<210> 29

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 29

aaggcataaa ttaaatccac

20

<210> 30

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 30

aatagttctc ctccactgag

20

<210> 31

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 31

gtctctgtag atgatcccct

20

<210> 32

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 32

tctattgttc cacaaaatgt

20

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 33

tttctttcta ttctcccag

20

<210> 34

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 34

cccaggacca gctcccagac

20

<210> 35

<211> 20

<212> DNA

<213> Artificial Sequence

<220>



<223> Antisense Oligonucleotide

<400> 35

ttcactgaga gttgagtcac

20

<210> 36

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 36

actgggctga caggtgttcg

20

<210> 37

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 37

gtatggccca gagttcggct

20

<210> 38

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 38

ctctgtcata gattcatacg

20

<210> 39

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 39

tctgaaactg tcattttgag

20

<210> 40

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 40

gagttcagca atactatattt

20

<210> 41

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 41

gtcagtttcg agtcatcaac

20

<210> 42

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 42

agttgcaagt attataggca

20

<210> 43

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 43

gaccaagctt gcatgcta

20

<210> 44

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 44

tgtctttggcc ttccatttt

20

<210> 45

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 45

ttgcacgtaa aacatcaatt

20

<210> 46

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 46

aaccaataat ttgcatttt

20

<210> 47

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 47

atgattcatt tgcattttat

20

<210> 48

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 48

ccctcaaacg agccacagct

20

<210> 49

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 49

ccgcagctgg gttactgaaa

20